

REMARKS/ARGUMENTS

Applicants respectfully request reconsideration and allowance of this application in view of the amendments above and the following comments.

Substance of Interview

At the outset, Applicants wish to thank Examiner Metzmaier for the courtesy of the interview recently accorded Applicants' representative.

During the interview, Applicants' representative discussed amendments to overcome the new matter rejection as well as the first aspect of the indefiniteness rejection. It was agreed that an amendment along the foregoing lines, i.e., deleting "predominately" would overcome both issues.

Applicants' representative also discussed amendments to overcome the second aspect of the indefiniteness rejection. It was agreed that an amendment along the foregoing lines, i.e., replacing "solution consisting of water" by -- liquid consisting of water -- would overcome this aspect of the indefiniteness rejection.

With respect to the prior art rejections, Applicants' representative tried to convince the Examiner that Moumen's colloids could not be stably redispersed in water alone otherwise Moumen would not have expressly taught the need to add ethylene glycol to prevent agglomeration. Applicants' representative tried to convince the Examiner that the difference in

redispersibility properties proved both novelty and nonobviousness. No agreement was reached on these points.

With respect to Bonnemann, Applicants' representative tried to convince the Examiner that the reduction that Bonnemann mentioned was reduction of the metal itself, not reduction of any inherently produced oxides. Again, no agreement was reached on these points.

Issues in the Outstanding Office Action

Claims 21-39, 41, 44-48, 51 and 52 were rejected under 35 USC § 112, first paragraph, as claiming new matter. In response, Applicants have amended the rejected claims, as noted above, to delete the word "predominately," thereby mooting this rejection.

Claims 21-52 were rejected under 35 USC § 112, second paragraph, as being indefinite. In response, Applicants have amended the rejected claims, as noted above, to delete the word "predominately" and to replace "solution consisting of water" by -- liquid consisting of water --, thereby mooting this rejection as well.

Claims 21, 23, 24, 26, 27, 29, 30, 32-35, 37, 46, 47 and 51 were rejected under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as being obvious over Moumen et al. ("Moumen"), *Chemical Materials*, 8: 1128-1134 (1996). In response, Applicants reiterate out that they previously argued that Moumen's colloids were redispersible in a mixture of *ethylene glycol and water*, and, therefore, were different than the instant colloids, which are redispersible in *water alone*. The Examiner countered that there was no evidence that

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there was no evidence that Moumen's colloids would not be redispersible in water alone. However, Applicants respectfully submit that this can be reasonably inferred based on the evidence of record. Moumen would not have employed a mixture of ethylene glycol and water to stabilize his colloids if he truly believed they could be redispersed in water alone.

Further on this point, Applicants again call the Examiner's attention to another article by Moumen, already of record and appearing in *J. Phys. Chem.*, 100: 1867-1873 (1996). This article discusses Fe/Co mixed oxide nanoparticles in the form of colloids like those discussed in the Moumen reference on which the Examiner relies. In the last paragraph of the Experimental Section II, in the right-hand column on page 1867, the author's state: ***"To prevent agglomeration, magnetic particles [i.e., the Fe/Co colloids] are dispersed in 50% of ethylene glycol in water."*** Incidentally, this is the same mix of ethylene glycol and water used in the Moumen reference relied on by the Examiner. Clearly, Moumen's colloids would not be stable in water alone. Thus, Moumen has had to introduce ethylene glycol to provide stabilization, and to prevent agglomeration.

This technique of employing special conditions to stabilize colloids is discussed in the instant specification in the last sentence of the second paragraph on page 1. The agglomeration is undesired because, as stated, this leads to "insoluble metal powders." Accordingly, "stabilizers, such as ligands, polymers or surfactants are added in most cases," to avoid such agglomeration. This is what Moumen is doing by introducing ethylene glycol. Moumen expressly teaches that it is necessary to add the ethylene glycol in order to prevent the agglomeration. It follows that without such addition of ethylene glycol, there would be agglomeration. And, of course, without the addition of ethylene glycol, the liquid in which such agglomeration would occur would be

water alone. Consequently, it can be fairly deduced from Moumen's own teachings that his colloids are not redispersible in water alone.

Towards the bottom of page 6 of the Office Action, the Examiner calls Applicants' attention to section V on page 1130 of Moumen. There Moumen teaches that a magnetic precipitate appears and thereafter "[t]he supernatant is removed and replaced by pure bulk aqueous phase." This is no teaching that Moumen's magnetic precipitate is redispersible in water alone as required by the rejected claims. The reference to "pure bulk aqueous phase" is a reference to the bulk aqueous phase used to precipitate the magnetic precipitate in the first place. This is not a teaching that the magnetic precipitate is redispersible in water alone. Moreover, even dispersion in pure bulk aqueous phase may not lead to a stable colloidal solution as Moumen still teaches the need to add ethylene glycol in order to prevent agglomeration.

In view of the foregoing, Applicants respectfully submit that there is a clear difference between Moumen's materials and what is required by the present claims. Moumen's colloids are not redispersible in a liquid consisting of water, as required by the instant claims. Consequently, Moumen cannot anticipate the instant claims.

On the alternative issue of obviousness, the Examiner appears to imply in the middle of page 6 of the Office Action that even if Moumen differs from the instant claims, Applicants must nevertheless prove nonobviousness. However, Applicants respectfully disagree. The burden of making a *prima facie* case of obviousness is in the first instant on the Examiner. Applicants have explained above that Moumen's colloids are not redispersible in a liquid consisting of water, as required by the instant claims. When the Examiner accepts that difference, then he can only

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make out a *prima facie* case of obviousness if he can show that the difference in properties would have been obvious to persons skilled in the art. The Examiner has not made out a case that a person having ordinary skill in the art, given Moumen's teaching of colloids redispersible in water + ethylene glycol, would have found it obvious, or even been enabled, to make the claimed colloids redispersible in water alone. There is absolutely nothing in Moumen that teaches or suggests to persons skilled in the art how to make the claimed colloids. Consequently, they could not have been *prima facie* obvious in view of Moumen.

The Examiner is exactly right that "[a] compound and all of its properties are generally inseparable." The ability of the colloids to be redispersible in a given liquid is a property that the Examiner must consider in determining not only anticipation, but also obviousness. As Moumen's colloids have different redispersibility properties than the instant colloids, they are not identical and, thus, there is no anticipation. Further, the issue of obviousness boils down to the question whether the difference in properties would have been obvious or enabled by the prior art. The Examiner has not pointed to anything in the prior art that teaches or suggests the difference in properties or reveals how such difference in properties can be achieved. In the absence of such teachings or suggestions in the prior art, the prior art cannot render the claimed invention *prima facie* obvious.

In view of the foregoing, Applicants respectfully submit that the Examiner would be fully justified to reconsider and withdraw this rejection. An early notice that this rejection has been reconsidered and withdrawn is earnestly solicited.

Claim 36 was rejected under 35 USC § 103(a) as being obvious over Moumen. In

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response, Applicants respectfully submit that this rejection was premised on Moumen anticipating and/or rendering obvious the basic aspects of the present invention, which, as explained above, is not, in fact, the case. For the same reasons, Moumen does not render claim 36 obvious. Therefore, Applicants respectfully submit that this rejection should be reconsidered and withdrawn as well.

Claims 21-24, 26-30, 32-35, 37-39, 41 and 46-48 were rejected under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as being obvious over Bonnemann et al. ("Bonnemann"), WO 96/17685. In response, Applicants point out that the Examiner is relying on a theory of inherency, which, in order to be proper, has certain requirements, chief among them "necessity." Thus, it must necessarily be the case that the Examiner's theory is correct. It is not sufficient that it is a mere possibility or even a strong possibility. Instead, it must necessarily pass.

It follows that if the Examiner has a theory, but it turns out that there is another reasonable explanation for what the Examiner is interpreting, then there is no inherency because it is not necessarily the case that the Examiner's theory is correct.

This is such a case. The Examiner theorizes that there must be reduction of oxides occurring in Bonnemann, otherwise there would "exist nothing to be reduced in the reduction step of streaming H₂ for 3 or 4 hours." However, Applicants have already explained that it is the metal salt that is reduced, not any hypothetical metal oxide.

Indeed, it would be a curious thing for Bonnemann to make an explicit reference to reduction, yet with the intention that this be for an inherently disclosed oxide. If, as the

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Examiner theorizes, the metal oxide was something that occurred in Bonnemann's process unknown to them, then why would Bonnemann expressly teach reduction of such unknown material? Obviously, Bonnemann intended to reduce what he thought the material to comprise. And, what Bonnemann thought the material comprises and, therefore, what is reduced, is the metal salt.

Respectfully, the Examiner's position on inherency is logically strained. More importantly, the Examiner has not responded to Applicants' argument and explained why it is implausible. If Applicants' argument is plausible, then it is not necessarily the case that the Examiner's theory is correct, or that Bonnemann's process inherently reduces metal oxide.

In view of the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw the anticipation aspect of this rejection.

With respect to obviousness, assuming a difference, the Examiner again places the burden on Applicants to prove the difference is nonobvious. However, this skips a step wherein the Examiner must first make out a case that the difference would have been *prima facie* obvious. The Examiner has not made out such a case. Accordingly, the obviousness aspect of this rejection should also be reconsidered and withdrawn.

Claim 44 was rejected under 35 USC § 103(a) as being obvious over Bonnemann further in view of Day et al. ("Day"), US 4,197,187. In response, Applicants respectfully submit that this rejection was premised on Bonnemann anticipating and/or rendering obvious the basic aspects of the present invention, which, as explained above, is not, in fact, the case. For the same reasons, Bonnemann in view of Day does not render claim 44 obvious. Therefore, Applicants

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respectfully submit that this rejection should be reconsidered and withdrawn as well.

Claims 21-24, 26-30, 32-35, 37-39 and 41 were rejected on the grounds of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,090,746. In response, Applicants point out that this rejection was premised upon Bonnemann inherently producing metal oxide colloids, which, as discussed above, is not, in fact, the case.

Consequently, Applicants believe that the Examiner would be fully justified to reconsider and withdraw this rejection as well.

Applicants believe that the foregoing constitutes a bona fide response to all outstanding objections and rejections.

Applicants also believe that this application is in condition for immediate allowance. However, should any issue(s) of a minor nature remain, the Examiner is respectfully requested to telephone the undersigned at telephone number (212) 808-0700 so that the issue(s) might be promptly resolved.

Early and favorable action is earnestly solicited.

Respectfully submitted,
NORRIS McLAUGHLIN & MARCUS, P.A.

By //Kurt G. Briscoe//
Kurt G. Briscoe
Attorney for Applicant(s)
Reg. No. 33,141
875 Third Avenue
18TH Floor
New York, New York 10022
Phone: (212) 808-0700
Fax: (212) 808-0844

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